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Memo

DATE: *March 24, 2002*

TO: RHIC E-Coolers

FROM: *Ady Hershcovitch*

SUBJECT: **Minutes of the March 22, 2002 Meeting**

Present: Ady Hershcovitch, Michael Iarocci, Jorg Kewisch, William MacKay, Christoph Montag, Satoshi Ozaki, Joseph Scaduto, Thomas Roser, Dejan Trbojevic, Dong Wang, Vitaly Yakimenko, Qiang Zhao.

Reminder: Waldo has been posting meeting minutes on the web. They can be found at http://www.rhichome.bnl.gov/RHIC/luminosity/upgrade/minutes/. Additional pages of interest are: http://www.rhichome.bnl.gov/RHIC/luminosity/ a general page for luminosity issues in RHIC; and, http://www.rhichome.bnl.gov/RHIC/luminosity/upgrade/ a page for upgrade issues.

Topics discussed: RF Cavities, Simulation & Calculations.

RF Cavities: Satoshi opened the meeting by reporting that he had spoken to Dieter Trines from DESY, who suggested a meeting at DESY before EPAC.

Simulation & Calculations: Jorg showed a couple of schemes (with water cooled and air cooled magnets) that would fit in 939. The loop now is 360 degrees versus 540 degree "loop" with permanent magnets. With water-cooled magnets, the set-up fits in 939, while with air cool magnets it is about 50 cm too long (but, can be made to fit). The design contains 16 dipoles and 24 quadrupoles. Jorg tried beta dispersions of 50 and 120 meters. It can be made as small as 2 meters. Jorg asked Joe Scaduto to search the "junk yard" for magnets.

In line with (and on either side of) the solenoid, the scheme has a bunch rotating cavity, a dipole, and 3 quadrupoles, whose combined length is 10 meters. That would leave only 20 meters for a RHIC cooler solenoid. Vitaly suggested moving the cavity before the final bent, while Waldo proposed using a "dog leg" in order to free up space for the cooling solenoid.

Due to budgetary constraints, Thomas said that there is a need to prioritize based what must be tested versus what is calculable with high certainty. Therefore, the gun and solenoid will have priority over the ring. Additionally, Thomas suggested reconsidering recirculating beams. Dejan suggested looking into one recirculating beam for both RHIC rings.